

10/507409

Figure 1A - Basic Data and Initial Product Matrices for p'UM-sp Model

[illegible]

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ABM-RCP Variance Analytics Model

PCT Patent Submission • 2003-03-13

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**Budgeted Prices, Activities,
Volumen and Costs**

Figure 2A - Details for Attributing Variances to a Product within a Product Mix

Matrix Algebra Application to Accounting Cost Variance Analysis

Product Dimension

| Patient Types | | | | | | | | | | | | |
|--------------------|----------------|--|----------------|--|--------------|--|---------------|--|----------------|--|----------------|--|
| diagno | BITN - MATH | | BITN - CS | | Conversions | | Cancer - Lung | | Cancer - Liver | | PHEN - MATH | |
| | DRG1 | | DRG2 | | DRG3 | | DRG4 | | DRG5 | | DRG6 | |
| CO1 | 2000 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| CO2 | 0 | | 1500 | | 0 | | 0 | | 0 | | 0 | |
| CO3 | 0 | | 0 | | 500 | | 0 | | 0 | | 0 | |
| CO4 | 0 | | 0 | | 0 | | 750 | | 0 | | 0 | |
| CO5 | 0 | | 0 | | 0 | | 0 | | 0 | | 900 | |
| CO6 | 0 | | 0 | | 0 | | 0 | | 0 | | 1000 | |
| Subgroups | | | | | | | | | | | | |
| A1 | 2000 | | 1500 | | 0 | | 1500 | | 0 | | 2000 | |
| A2 | 0 | | 1500 | | 1000 | | 1800 | | 2700 | | 3000 | |
| A3 | 0 | | 3000 | | 500 | | 750 | | 1800 | | 5000 | |
| A4 | 6000 | | 6000 | | 2500 | | 1600 | | 2700 | | 4000 | |
| A5 | 5000 | | 7500 | | 1800 | | 2250 | | 900 | | 1000 | |
| PROBLEMS | | | | | | | | | | | | |
| R1 | 1000 | | 15000 | | 2500 | | 4500 | | 2700 | | 8000 | |
| R2 | 15000 | | 57000 | | 8000 | | 9750 | | 11700 | | 17000 | |
| R3 | 50000 | | 76500 | | 21000 | | 24500 | | 25100 | | 40000 | |
| R4 | 44000 | | 64500 | | 18000 | | 21750 | | 22500 | | 42000 | |
| PHEN - MATH | | | | | | | | | | | | |
| | \$1,074,000.00 | | \$1,335,000.00 | | \$44,000.00 | | \$37,500.00 | | \$52,300.00 | | \$1,041,000.00 | |
| SP - MATH | | | | | | | | | | | | |
| | \$1,400,000.00 | | \$1,300,000.00 | | \$300,000.00 | | \$575,000.00 | | \$875,000.00 | | \$1,200,000.00 | |
| PROBLEMS | | | | | | | | | | | | |
| | \$322,000.00 | | \$114,000.00 | | 240,000.00 | | \$103,500.00 | | \$92,700.00 | | \$139,000.00 | |

| Utilization of Activities for Patient Groups | | | | | | | | | | | | |
|--|----------------|--|----------------|--|--------------|--|---------------|--|----------------|--|--------------|--|
| diagno | BITN - MATH | | BITN - CS | | CONVRS - BBS | | CANCER - LUNG | | CANCER - LIVER | | PHEN - MATH | |
| | DRG1 | | DRG2 | | DRG3 | | DRG4 | | DRG5 | | DRG6 | |
| CO1 | 2200 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| CO2 | 0 | | 1700 | | 0 | | 0 | | 0 | | 0 | |
| CO3 | 0 | | 0 | | 500 | | 0 | | 0 | | 0 | |
| CO4 | 0 | | 0 | | 0 | | 700 | | 0 | | 900 | |
| CO5 | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| CO6 | 0 | | 0 | | 0 | | 0 | | 0 | | 800 | |
| Subgroups | | | | | | | | | | | | |
| A1 | 3300 | | 1700 | | 0 | | 1400 | | 0 | | 1500 | |
| A2 | 0 | | 1500 | | 1000 | | 1400 | | 2250 | | 2000 | |
| A3 | 0 | | 3400 | | 450 | | 700 | | 1800 | | 4400 | |
| A4 | 4400 | | 6800 | | 2500 | | 1750 | | 2700 | | 3200 | |
| A5 | 6800 | | 8500 | | 1500 | | 2100 | | 1050 | | 500 | |
| PROBLEMS | | | | | | | | | | | | |
| R1 | 10450 | | 14900 | | 2100 | | 4600 | | 3172 | | 8504 | |
| R2 | 18470 | | 31127 | | 8380 | | 10115 | | 11654 | | 16504 | |
| R3 | 55590 | | 55590 | | 20210 | | 24683 | | 20145 | | 42400 | |
| R4 | 54850 | | 72294 | | 18575 | | 22750 | | 21584 | | 35305 | |
| PHEN - MATH | | | | | | | | | | | | |
| | \$1,426,000.00 | | \$1,949,725.00 | | \$475,000.00 | | \$390,000.00 | | \$511,700.00 | | \$880,000.00 | |
| SP - MATH | | | | | | | | | | | | |
| | \$1,534,000.00 | | \$2,125,000.00 | | \$400,000.00 | | \$355,000.00 | | \$552,000.00 | | \$776,000.00 | |
| PROBLEMS | | | | | | | | | | | | |
| | \$257,210.00 | | \$175,500.00 | | \$27,000.00 | | \$44,000.00 | | \$41,900.00 | | \$77,900.00 | |

| | | | | | | |
|-------|--------|--------|-------|-------|-------|--------|
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | 2200.0 | 1700.0 | 500.0 | 900.0 | 800.0 | 8200.0 |
| Total | | | | | | |

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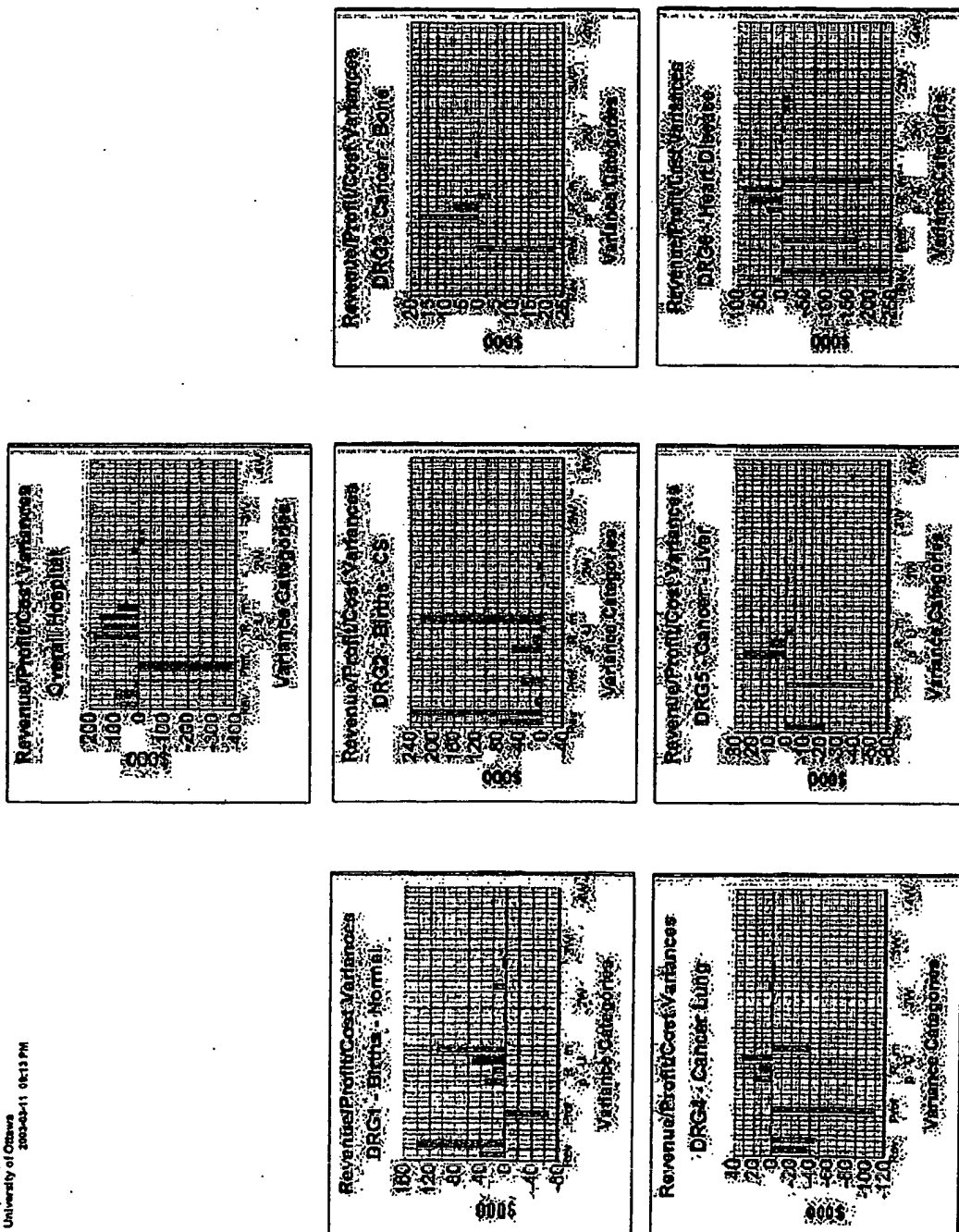
Figure 2B - Cost Variance Components for Products

| Product Dimension Cost Variance Analysis | Berta - Norm | | Berta - CS | | Patent - Norm | | Patent - CS | | Patent - Norm | | Patent - CS | | Patent - Norm | | Patent - CS | | Total |
|---|----------------|----------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|----------------|
| | PRG1 | PRG2 | PRG3 | PRG4 | PRG5 | PRG6 | PRG7 | PRG8 | PRG9 | PRG10 | PRG11 | PRG12 | PRG13 | PRG14 | PRG15 | PRG16 | |
| Actual Total Cost = | \$1,328,655.00 | \$1,945,143.50 | \$475,992.25 | \$378,620.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$3,952,443.25 |
| Budgeted Total Cost = | \$1,328,655.00 | \$1,945,143.50 | \$475,992.25 | \$378,620.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$271,600.00 | \$3,952,443.25 |
| Total Cost Variance = | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Main Cost Variance Components | | | | | | | | | | | | | | | | | |
| Resource Price Variance (P) = | \$21,000.00 | \$32,125.00 | \$17,750.00 | \$16,922.50 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$15,450.00 | \$170,450.00 |
| Resource Conversion Efficiency Variance (R) = | \$18,000.00 | \$15,000.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$3,950.00 | \$174,450.00 |
| Activity Utilization Variance (U) = | \$53,000.00 | \$77,950.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$23,400.00 | \$153,150.00 |
| Patent Mix Variance (M) = | \$107,655.00 | \$221,825.00 | \$5,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$82,700.00 |
| Total of Main Components | \$199,655.00 | \$349,900.00 | \$49,100.00 | \$44,272.50 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$39,800.00 | \$698,000.00 |
| Interaction Variance Components | | | | | | | | | | | | | | | | | |
| Two Way Interactions | | | | | | | | | | | | | | | | | |
| Resource Price, Efficiency (P,R) = | \$4,000.00 | \$226.00 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$82.50 | \$1,343.75 | \$4,600.25 |
| Resource Price, Utilization (P,U) = | \$250.00 | \$352.50 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$50.00 | \$1,498.25 | \$2,051.25 |
| Resource Price, Patent Mix (P,M) = | \$18,400.00 | \$1,000.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$183.00 | \$4,350.00 | \$20,712.00 |
| Efficiency, Utilization (R,U) = | \$1,800.00 | \$2,000.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$50.00 | \$833.00 | \$2,666.00 |
| Efficiency, Patent Mix (R,M) = | \$3,500.00 | \$1,070.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$30.00 | \$1,100.00 | \$4,730.00 |
| Utilization, Patent Mix (U,M) = | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Three Way Interactions | | | | | | | | | | | | | | | | | |
| Resource Price, Efficiency, Utilization (P,R,U) = | \$1,400.00 | \$15.00 | \$48.75 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$37.50 | \$1,456.75 |
| Resource Price, Efficiency, Patent Mix (P,R,M) = | \$400.00 | \$30.00 | \$50.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$475.75 |
| Resource Price, Utilization, Patent Mix (P,U,M) = | \$25.00 | \$75.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$20.00 | \$25.00 | \$75.75 |
| Efficiency, Utilization, Patent Mix (R,U,M) = | \$1,840.00 | \$144.00 | \$30.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$25.00 | \$1,944.00 |
| Four Way Interactions | | | | | | | | | | | | | | | | | |
| Resource Price, Efficiency, Utilization, Patent Mix (P,R,U,M) = | \$140.00 | \$2.00 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$0.00 | \$72.50 | \$187.00 |
| Total of Cost Variance Components = | \$349,655.00 | \$700,135.00 | \$11,880.25 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$72,120.00 | \$998,045.25 |

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Figure 2C - Revenue, Profit and Cost Variance Graphs at the Level of Patient Type

ABIM-RCP Variance Analytics Model
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Figure 2D - Details for Attributing Cost Variances to a Product Group within a Product Mix

| Group | Bina | Cancer | Heart Disease | Totals |
|-----------|----------------|----------------|----------------|----------------|
| CO1 | 2000 | 0 | 0 | 2000 |
| CO2 | 1500 | 0 | 0 | 1500 |
| CO3 | 0 | 500 | 0 | 500 |
| CO4 | 0 | 750 | 0 | 750 |
| CO5 | 0 | 900 | 0 | 900 |
| CO6 | 0 | 0 | 1000 | 1000 |
| Subgroups | | | | |
| A1 | 3500 | 1500 | 2000 | 7000 |
| A2 | 1800 | 8200 | 3000 | 9700 |
| A3 | 3000 | 3050 | 5000 | 11050 |
| A4 | 10000 | 8700 | 4000 | 20700 |
| A5 | 13500 | 4850 | 1000 | 19350 |
| Subgroups | | | | |
| R1 | 20000 | 9200 | 8000 | 37200 |
| R2 | 45000 | 29450 | 17000 | 89450 |
| R3 | 15000 | 78500 | 40000 | 211500 |
| R4 | 102500 | 62350 | 43000 | 211750 |
| Subgroups | | | | |
| PRO | \$2,757,000.00 | \$1,207,800.00 | \$1,641,000.00 | \$5,605,800.00 |
| Subgroups | | | | |
| SP | \$3,200,000.00 | \$1,850,000.00 | \$1,230,000.00 | \$6,280,000.00 |
| Subgroups | | | | |
| PRO | \$482,000.00 | \$272,000.00 | \$153,000.00 | \$907,000.00 |

| Group | Bina | Cancer | Heart Disease | Totals |
|-----------|----------------|----------------|---------------|----------------|
| CO1 | 2000 | 0 | 0 | 2000 |
| CO2 | 1700 | 0 | 0 | 1700 |
| CO3 | 0 | 900 | 0 | 900 |
| CO4 | 0 | 0 | 0 | 0 |
| CO5 | 0 | 900 | 0 | 900 |
| CO6 | 0 | 0 | 900 | 900 |
| Subgroups | | | | |
| A1 | 6000 | 1400 | 1800 | 8200 |
| A2 | 1530 | 4850 | 2800 | 9180 |
| A3 | 3400 | 2950 | 4400 | 10750 |
| A4 | 11200 | 8850 | 3200 | 21350 |
| A5 | 15100 | 4850 | 800 | 20550 |
| Subgroups | | | | |
| R1 | 25410 | 10842 | 6884 | 44756 |
| R2 | 50587 | 32276 | 18224 | 101087 |
| R3 | 141583 | 71540 | 42460 | 265583 |
| R4 | 128444 | 62889 | 35208 | 226541 |
| Subgroups | | | | |
| PRO | \$2,275,700.00 | \$1,087,107.5 | \$68,337.00 | \$3,431,144.50 |
| Subgroups | | | | |
| SP | \$3,708,000.00 | \$1,747,250.00 | \$978,000.00 | \$6,453,250.00 |
| Subgroups | | | | |
| PRO | \$433,200.00 | \$207,800.00 | \$113,334.00 | \$754,334.00 |

ABM-RCP Variance Analytics Model

PCT Patent Submission - 2003-03-13

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Budgeted Prices, Activities,
Volumes and CostsActual Prices, Activities,
Volumes and Costs

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ABM-RCP Variance Analytics Model
 PCT Patent Submission - 2003-03-13
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Figure 2E - Cost Variance Analysis Results at Level of Product Groups

| Product-Group Dimension Cost Variance Analysis | Product Group | | | Totals |
|--|----------------|----------------|----------------------|----------------|
| | Burns POX | Carson POY | Heart Disease POZ | |
| Actual Total Cost = | \$1,275,795.50 | \$1,653,710.75 | \$889,924.00 | \$3,819,441.25 |
| Budgeted Total Cost = | \$2,737,000.00 | \$1,967,800.00 | \$1,041,000.00 | \$5,745,800.00 |
| Total Cost Variance = | \$1,461,204.50 | \$314,089.25 | (\$151,076.00) | \$1,624,107.75 |
| Main Cost Variance Components | | | | |
| Resource Price Variance (P) = | \$94,125.00 | \$90,837.50 | \$34,500.00 | \$179,462.50 |
| Resource Conversion Efficiency Variance (R) = | \$32,600.00 | \$26,185.00 | \$71,900.00 | \$130,685.00 |
| Activity Utilization Variance (U) = | \$43,350.00 | \$24,230.00 | \$45,900.00 | \$113,480.00 |
| Patient Mix Variance (m) = | \$729,000.00 | (\$28,100.00) | (\$258,200.00) | \$442,700.00 |
| Total of Main Components | | | | \$325,827.50 |
| Interaction Variance Components | | | | |
| Two Way Interactions | | | | |
| Resource Price, Efficiency (P,R) = | \$4,225.00 | \$1,554.25 | (\$1,175.00) | \$4,604.25 |
| Resource Price, Utilization (P,U) = | (\$312.50) | \$163.75 | \$3,300.00 | \$3,551.25 |
| Resource Price, Patient Mix (P,m) = | \$10,150.00 | (\$1,237.50) | (\$3,900.00) | \$5,012.50 |
| Efficiency, Utilization (R,U) = | \$20,480.00 | \$5,275.00 | \$2,750.00 | \$28,505.00 |
| Efficiency, Patient Mix (R,m) = | \$3,880.00 | (\$895.00) | (\$14,350.00) | (\$11,365.00) |
| Utilization, Patient Mix (U,m) = | \$4,200.00 | (\$2,100.00) | (\$17,120.00) | (\$15,020.00) |
| Three Way Interactions | | | | |
| Resource Price, Efficiency, Utilization (P,R,U) = | \$1,415.00 | \$375.25 | (\$337.50) | \$1,452.75 |
| Resource Price, Efficiency, Patient Mix (P,R,m) = | \$430.00 | (\$91.25) | \$253.00 | \$591.75 |
| Resource Price, Utilization, Patient Mix (P,U,m) = | (\$30.00) | (\$63.75) | (\$640.00) | (\$733.75) |
| Efficiency, Utilization, Patient Mix (R,U,m) = | \$2,094.00 | (\$250.00) | (\$546.00) | \$1,298.00 |
| Four Way Interaction | | | | |
| Resource Price, Efficiency, Utilization, Patient Mix (P,R,U,m) = | \$142.00 | (\$22.50) | \$67.50 | \$187.00 |
| Total of Cost Variance Components = | \$1,461,204.50 | \$314,089.25 | (\$151,076.00) | \$1,624,107.75 |

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Figure 3A - Details for Attributing Variances to Individual Activities

ABM-RCIP[®] Variance Analytics Model

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University of Ottawa

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| | diag Umb | Nursing 1 A1 | Nursing 2 A3 | Lab Tests A5 | X-Rays A4 | Pharmacy A5 | Total |
|----|----------|-----------------|-----------------|-----------------|---------------|----------------|---------------|
| a) | A1 | 7,000.0 | 0 | 0 | 0 | 0 | 7,000.0 |
| | A2 | 0 | 9,700.0 | 0 | 0 | 0 | 9,700.0 |
| | A3 | 0 | 0 | 11,060.0 | 0 | 0 | 11,060.0 |
| | A4 | 0 | 0 | 0 | 20,700.0 | 0 | 20,700.0 |
| | A5 | 0 | 0 | 0 | 0 | 18,150.0 | 18,150.0 |
| b) | R1 | 7,000.0 | 0.0 | 11,350.0 | 0.0 | 19,150.0 | 37,500.0 |
| | R2 | 0.0 | 18,400.0 | 11,050.0 | 20,700.0 | 38,500.0 | 88,650.0 |
| | R3 | 14,000.0 | 19,400.0 | 31,150.0 | 82,500.0 | 85,750.0 | 245,800.0 |
| | R4 | 21,000.0 | 9,700.0 | 22,100.0 | 102,500.0 | 57,450.0 | 211,750.0 |
| | diag Umb | \$371,000.0 | \$494,700.0 | \$751,400.0 | \$1,748,000.0 | \$2,028,900.0 | \$3,385,000.0 |

| Category | Nursing 1 | | Nursing 2 | | Lab Tests | | X-Rays | | Pharmacy | | Total |
|----------|-----------|---------------|--------------|--------------|---------------|---------------|----------|----|----------|-----|----------------|
| | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | |
| Q1 | A1 | 3,240.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6240.0 |
| | A2 | 0 | 8,140.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9140.0 |
| | A3 | 0 | 0 | 0 | 10,760.0 | 0 | 0 | 0 | 0 | 0 | 10760.0 |
| | A4 | 0 | 0 | 0 | 0 | 0 | 21,360.0 | 0 | 0 | 0 | 21360.0 |
| | A5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20,360.0 | 0 | 20360.0 |
| Q2 | Q1 | 9,084.0 | 0.0 | 12,900.0 | 4,370.0 | 18,820.0 | | | | | 44784.0 |
| | R2 | 4,120.0 | 17,368.8 | 8,600.0 | 32,078.0 | 34,518.0 | | | | | 97097.8 |
| | R3 | 20,690.0 | 13,710.0 | 40,850.0 | 87,635.0 | 92,210.0 | | | | | 258395.0 |
| | R4 | 32,660.0 | 7,312.0 | 18,125.0 | 111,020.0 | 67,624.0 | | | | | 228504.0 |
| Q3 | Q1 | 18,010.172.00 | 5,413,608.00 | 3,768,883.75 | 82,140,387.50 | 81,989,237.00 | | | | | \$5,852,443.25 |

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ABM-RCP Variance Analytics Model Figure 3B - Supplementary matrix products for the activity level

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| diagUdUmb | | Nursing 1 | | Nursing 2 | | Lab Tests | | X-Rays | | Pharmacy | |
|-----------|----|-----------|-----|-----------|----|-----------|----|--------|-----|----------|-----|
| | | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 |
| diagUdUmb | A1 | 1300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A2 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A3 | 0 | 0 | 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A4 | 0 | 0 | 0 | 0 | 0 | 0 | 375 | 0 | 0 | 0 |
| | A5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 0 | 0 |

| diagUdUmb | | Nursing 1 | | Nursing 2 | | Lab Tests | | X-Rays | | Pharmacy | |
|-----------|----|-----------|------|-----------|----|-----------|----|--------|------|----------|-----|
| | | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 |
| diagUdUmb | A1 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A2 | 0 | -500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A3 | 0 | 0 | -450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A4 | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 0 | 0 | 0 |
| | A5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1250 | 0 | 0 |

| diagUdUmb | | Nursing 1 | | Nursing 2 | | Lab Tests | | X-Rays | | Pharmacy | |
|-----------|----|-----------|------|-----------|----|-----------|----|--------|----|----------|-----|
| | | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 |
| diagUdUmb | A1 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A2 | 0 | -180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A3 | 0 | 0 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A4 | 0 | 0 | 0 | 0 | 0 | 0 | -25 | 0 | 0 | 0 |
| | A5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

ABM-RCP Variance Analytics Model Figure 3C - Cost Variance Components for Activities

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Activity and Activity-Producing Department Dimension

Cost Variance Analysis

Actual Total Cost =

Budgeted Total Cost =

Total Cost Variance =

Main Cost Variance Components

Resource Price Variance (P) =

Resource Conversion Efficiency Variance (R) =

Activity Utilization Variance (U) =

Patient Mix Variance (M) =

Total of Main Components

Interaction Variance Components

Two Way Interactions

Resource Price, Efficiency (P,R) =

Resource Price, Utilization (P,U) =

Resource Price, Patient Mix (P,M) =

Efficiency, Utilization (E,U) =

Efficiency, Patient Mix (E,M) =

Utilization, Patient Mix (U,M) =

Three Way Interactions

Resource Price, Efficiency, Utilization (P,R,U) =

Resource Price, Efficiency, Patient Mix (P,R,M) =

Resource Price, Utilization, Patient Mix (P,U,M) =

Efficiency, Utilization, Patient Mix (E,U,M) =

Four Way Interaction

Resource Price, Efficiency, Utilization, Patient Mix (P,R,U,M) =

Total of Cost Variance Components =

| Service Categories | | | | | |
|---------------------------------|-----------------|---------------|----------------|----------------|----------------|
| Nursing 1 AI | Nursing 2 AS | Lab Use AS | Phy AS | Pharmacy AS | Total |
| \$910,172.00 | \$433,893.00 | \$798,493.75 | \$2,140,337.50 | \$1,999,347.00 | \$5,982,443.25 |
| \$271,000.00 | \$494,700.00 | \$791,400.00 | \$1,738,800.00 | \$2,028,000.00 | \$5,324,900.00 |
| \$239,172.00 | (\$91,007.00) | \$17,493.75 | \$401,537.50 | (\$30,553.00) | \$598,643.25 |
| Main Cost Variance Components | | | | | |
| \$1,750.00 | \$38,375.00 | \$11,050.00 | \$77,625.00 | \$32,602.50 | \$179,482.50 |
| \$135,800.00 | (\$59,845.00) | \$43,095.00 | \$240,120.00 | (\$214,480.00) | \$134,695.00 |
| \$88,000.00 | \$5,100.00 | \$30,000.00 | \$31,500.00 | \$19,050.00 | \$183,150.00 |
| (\$3,320.00) | (\$25,500.00) | (\$44,200.00) | \$25,200.00 | \$132,500.00 | \$52,700.00 |
| Interaction Variance Components | | | | | |
| Two Way Interactions | | | | | |
| \$9,800.00 | (\$975.00) | (\$15,183.75) | \$18,850.00 | (\$7,000.00) | \$4,606.25 |
| \$235.00 | \$375.00 | \$450.00 | \$1,400.25 | \$485.00 | \$3,051.25 |
| (\$25.00) | (\$1,875.00) | (\$650.00) | \$1,125.00 | \$3,437.50 | \$2,012.50 |
| \$25,220.00 | (\$723.00) | \$1,755.00 | \$4,350.00 | (\$3,018.00) | \$28,889.00 |
| \$1,940.00 | \$3,900.00 | (\$2,553.00) | \$3,480.00 | (\$14,000.00) | (\$11,395.00) |
| \$2,120.00 | (\$8,150.00) | (\$3,500.00) | (\$2,100.00) | \$0.00 | (\$14,640.00) |
| Three Way Interactions | | | | | |
| \$1,820.00 | (\$10.00) | (\$818.75) | \$337.50 | (\$72.00) | \$1,466.75 |
| (\$140.00) | \$50.00 | \$892.75 | \$270.00 | (\$500.00) | \$573.75 |
| \$10.00 | (\$600.00) | (\$100.00) | (\$34.75) | \$0.00 | (\$733.75) |
| \$775.00 | \$1,152.00 | (\$390.00) | (\$290.00) | \$0.00 | \$1,245.00 |
| Four Way Interaction | | | | | |
| \$58.00 | 18 | 137.5 | -22.5 | 0 | \$187.00 |
| \$239,172.00 | (\$91,007.00) | \$17,493.75 | \$401,537.50 | (\$30,553.00) | \$598,643.25 |

Figure 3D - Cost Variance Graphs at Level of Activities

ABM-RCP Variance Analytics Model

PCT Patent Submission - 2003-03-13

Colin M. Lay and Ron Eden

University of Ottawa

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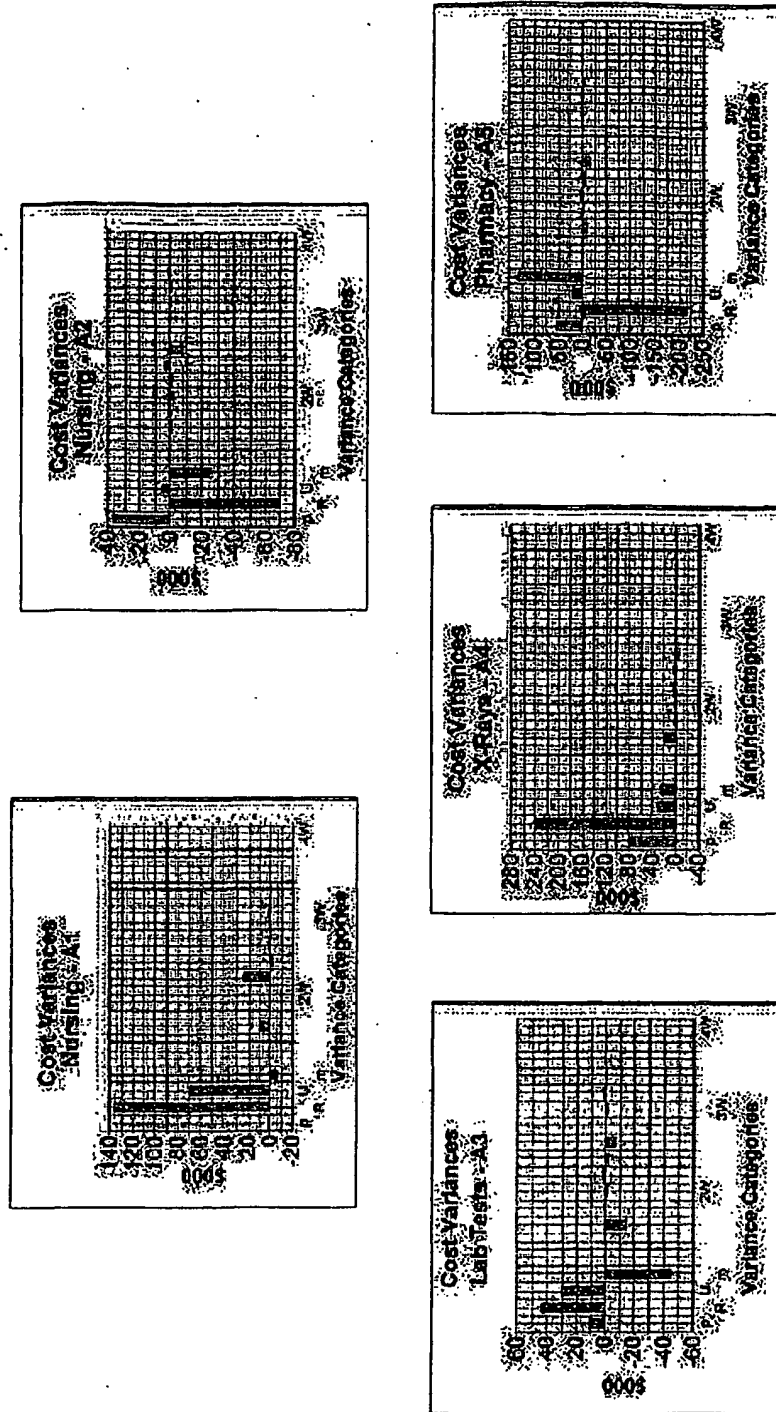


Figure 4A - Details for Attributing Variances to Individual Resources

ABM-RCP Variance Analytics Model

PCT Patent Submission - 2003-03-13

Colin M. Lay and Ron Eden

University of Ottawa

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| Description | Labour 1 | | Labour 2 | | Supplier 1 | | Supplier 2 | | Total |
|----------------|-------------------|------------------|-------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
| | R1 | R2 | R1 | R2 | R1 | R2 | R1 | R2 | |
| R1 | 37,200.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37,200.0 |
| R2 | 0 | 89,450.0 | 0 | 0 | 0 | 0 | 0 | 0 | 89,450.0 |
| R3 | 0 | 0 | 0 | 0 | 248,100.0 | 0 | 0 | 0 | 248,100.0 |
| R4 | 0 | 0 | 0 | 0 | 0 | 0 | 213,750.0 | 0 | 213,750.0 |
| Summary | 372,000.00 | 89,450.00 | 0.00 | 0.00 | 248,100.00 | 0.00 | 213,750.00 | 0.00 | 814,200.00 |

| Description | Labour 1 | | Labour 2 | | Supplier 1 | | Supplier 2 | | Total |
|----------------|------------------|------------------|-------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
| | R1 | R2 | R1 | R2 | R1 | R2 | R1 | R2 | |
| R1 | 44,750.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44,750.0 |
| R2 | 0 | 87,097.0 | 0 | 0 | 0 | 0 | 0 | 0 | 87,097.0 |
| R3 | 0 | 0 | 0 | 0 | 234,303.0 | 0 | 0 | 0 | 234,303.0 |
| R4 | 0 | 0 | 0 | 0 | 0 | 0 | 225,041.0 | 0 | 225,041.0 |
| Summary | 44,750.00 | 87,097.00 | 0.00 | 0.00 | 234,303.00 | 0.00 | 225,041.00 | 0.00 | 586,191.00 |

ABM-RCP Variance Analytics Model Figure 4B - Supplementary matrix products for the Resource Acquisition Level

PCT Patent Submission - 2003-03-13
Cath M. Lay and Ron Eden
University of Ottawa
2003-03-11 08:13 PM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--|------------|------------|----|-------|----|-------|----|------|---|----------|-----------|------------|------------|----|-----------|-----------|---|----|---|-----------|-----------|----|---|---|---------|----|---|---|----------|
| 1 | <table><tr><td>diagonal</td><td>5133</td></tr><tr><td>R1</td><td>4925</td></tr><tr><td>R2</td><td>-15</td></tr><tr><td>R3</td><td>-155</td></tr></table> | diagonal | 5133 | R1 | 4925 | R2 | -15 | R3 | -155 | <table><tr><td>Labour 1</td><td>Labour 2</td><td>Supplies 1</td><td>Supplies 2</td></tr><tr><td>R1</td><td>5,133,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>4,925,000</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>-15,000</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>-155,000</td></tr></table> | Labour 1 | Labour 2 | Supplies 1 | Supplies 2 | R1 | 5,133,000 | 0 | 0 | R2 | 0 | 4,925,000 | 0 | R3 | 0 | 0 | -15,000 | R4 | 0 | 0 | -155,000 |
| diagonal | 5133 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 4925 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | -15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | -155 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Labour 1 | Labour 2 | Supplies 1 | Supplies 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 5,133,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | 4,925,000 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | -15,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | -155,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | <table><tr><td>diagonal</td><td>1680</td></tr><tr><td>R1</td><td>1385</td></tr><tr><td>R2</td><td>6550</td></tr><tr><td>R3</td><td>7315</td></tr></table> | diagonal | 1680 | R1 | 1385 | R2 | 6550 | R3 | 7315 | <table><tr><td>R1</td><td>1,680,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>1,385,000</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>6,550,000</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | 1,680,000 | 0 | 0 | R2 | 0 | 1,385,000 | 0 | R3 | 0 | 0 | 6,550,000 | R4 | 0 | 0 | 0 | | | | |
| diagonal | 1680 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 1385 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 6550 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 7315 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 1,680,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | 1,385,000 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | 6,550,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <table><tr><td>diagonal</td><td>500</td></tr><tr><td>R1</td><td>1160</td></tr><tr><td>R2</td><td>4300</td></tr><tr><td>R3</td><td>3150</td></tr></table> | diagonal | 500 | R1 | 1160 | R2 | 4300 | R3 | 3150 | <table><tr><td>R1</td><td>500,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>1,160,000</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>4,300,000</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | 500,000 | 0 | 0 | R2 | 0 | 1,160,000 | 0 | R3 | 0 | 0 | 4,300,000 | R4 | 0 | 0 | 0 | | | | |
| diagonal | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 1160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 4300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 3150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 500,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | 1,160,000 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | 4,300,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | <table><tr><td>diagonal</td><td>277</td></tr><tr><td>R1</td><td>663.5</td></tr><tr><td>R2</td><td>907.5</td></tr><tr><td>R3</td><td>1094</td></tr></table> | diagonal | 277 | R1 | 663.5 | R2 | 907.5 | R3 | 1094 | <table><tr><td>R1</td><td>277,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>663,500</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>907,500</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | 277,000 | 0 | 0 | R2 | 0 | 663,500 | 0 | R3 | 0 | 0 | 907,500 | R4 | 0 | 0 | 0 | | | | |
| diagonal | 277 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 663.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 907.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 1094 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 277,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | 663,500 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | 907,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | <table><tr><td>diagonal</td><td>-205</td></tr><tr><td>R1</td><td>-45</td></tr><tr><td>R2</td><td>-415</td></tr><tr><td>R3</td><td>135</td></tr></table> | diagonal | -205 | R1 | -45 | R2 | -415 | R3 | 135 | <table><tr><td>R1</td><td>-205,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>-45,000</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>-415,000</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | -205,000 | 0 | 0 | R2 | 0 | -45,000 | 0 | R3 | 0 | 0 | -415,000 | R4 | 0 | 0 | 0 | | | | |
| diagonal | -205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | -45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | -415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 135 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | -205,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | -45,000 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | -415,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | <table><tr><td>diagonal</td><td>-40</td></tr><tr><td>R1</td><td>-445</td></tr><tr><td>R2</td><td>-640</td></tr><tr><td>R3</td><td>-395</td></tr></table> | diagonal | -40 | R1 | -445 | R2 | -640 | R3 | -395 | <table><tr><td>R1</td><td>-40,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>-445,000</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>-640,000</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | -40,000 | 0 | 0 | R2 | 0 | -445,000 | 0 | R3 | 0 | 0 | -640,000 | R4 | 0 | 0 | 0 | | | | |
| diagonal | -40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | -445 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | -640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | -395 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | -40,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | -445,000 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | -640,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | <table><tr><td>diagonal</td><td>-21</td></tr><tr><td>R1</td><td>43.5</td></tr><tr><td>R2</td><td>17.5</td></tr><tr><td>R3</td><td>117</td></tr></table> | diagonal | -21 | R1 | 43.5 | R2 | 17.5 | R3 | 117 | <table><tr><td>R1</td><td>-21,000</td><td>0</td><td>0</td></tr><tr><td>R2</td><td>0</td><td>43,500</td><td>0</td></tr><tr><td>R3</td><td>0</td><td>0</td><td>17,500</td></tr><tr><td>R4</td><td>0</td><td>0</td><td>0</td></tr></table> | R1 | -21,000 | 0 | 0 | R2 | 0 | 43,500 | 0 | R3 | 0 | 0 | 17,500 | R4 | 0 | 0 | 0 | | | | |
| diagonal | -21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | 43.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 17.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 117 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R1 | -21,000 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R2 | 0 | 43,500 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R3 | 0 | 0 | 17,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R4 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 4C - Cost Variance Components for Resources

ABM-RCP Variance Analytics Model

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Resource Acquisition Dimension

Cost Variance Analysis

Actual Total Cost =

Budgeted Total Cost =

Total Cost Variance =

Main Cost Variance Components

Resource Price Variance (P) =

Resource Conversion Efficiency Variance (R) =

Active Utilization Variance (U) =

Patient Mix Variance (m) =

Total of Main Components

Interaction Variance Components

Two way Interactions

Resource Price, Efficiency (P,R) =

Resource Price, Utilization (P,U) =

Resource Price, Patient Mix (P,m) =

Efficiency, Utilization (R,U) =

Efficiency, Patient Mix (R,m) =

Utilization, Patient Mix (U,m) =

Three Way Interactions

Resource Price, Efficiency, Utilization (P,R,U) =

Resource Price, Efficiency, Patient Mix (P,R,m) =

Resource Price, Utilization, Patient Mix (P,U,m) =

Efficiency, Utilization, Patient Mix (R,U,m) =

Four Way Interaction

Resource Price, Efficiency, Utilization, Patient Mix (P,R,U,m) =

Total of Cost Variance Components =

| | Resource Acquisition Dimension | | | | Total |
|--|--------------------------------|----------------|------------------|------------------|----------------|
| | Labour 1 R1 | Labour 2 R2 | Supplies 1 R3 | Supplies 2 R4 | |
| Actual Total Cost = | \$351,620.00 | \$1,458,455.00 | \$2,170,092.00 | \$1,744,097.75 | \$5,724,264.75 |
| Budgeted Total Cost = | \$250,000.00 | \$1,102,500.00 | \$2,224,000.00 | \$1,484,250.00 | \$5,060,750.00 |
| Total Cost Variance = | \$101,620.00 | \$355,955.00 | (\$54,908.00) | \$259,847.75 | \$681,514.75 |
| Main Cost Variance Components | | | | | |
| Resource Price Variance (P) = | (\$37,200.00) | \$174,900.00 | (\$12,550.00) | \$100,312.50 | \$170,462.50 |
| Resource Conversion Efficiency Variance (R) = | \$71,800.00 | \$84,025.00 | (\$135.00) | (\$1,085.00) | \$154,665.00 |
| Active Utilization Variance (U) = | \$27,020.00 | \$14,025.00 | \$58,950.00 | \$91,205.00 | \$191,200.00 |
| Patient Mix Variance (m) = | \$7,000.00 | \$14,950.00 | \$38,700.00 | \$22,050.00 | \$82,700.00 |
| Total of Main Components | | | | | |
| Interaction Variance Components | | | | | |
| Two way Interactions | | | | | |
| Resource Price, Efficiency (P,R) = | (\$5,115.00) | \$8,850.00 | \$7.00 | (\$116.25) | \$4,605.75 |
| Resource Price, Utilization (P,U) = | (\$1,950.00) | \$2,770.00 | (\$2,275.00) | \$5,408.25 | \$4,903.25 |
| Resource Price, Patient Mix (P,m) = | (\$900.00) | \$2,300.00 | (\$2,150.00) | \$2,392.50 | \$2,642.50 |
| Efficiency, Utilization (R,U) = | \$3,675.00 | \$4,885.50 | \$8,167.50 | \$7,658.00 | \$24,386.00 |
| Efficiency, Patient Mix (R,m) = | (\$2,875.00) | (\$1,235.00) | (\$8,235.00) | \$945.00 | (\$11,370.00) |
| Utilization, Patient Mix (U,m) = | (\$240.00) | (\$3,785.00) | (\$5,750.00) | (\$2,555.00) | (\$11,940.00) |
| Three Way Interactions | | | | | |
| Resource Price, Efficiency, Utilization (P,R,U) = | (\$277.00) | \$1,357.00 | (\$453.75) | \$920.50 | \$1,450.75 |
| Resource Price, Efficiency, Patient Mix (P,R,m) = | \$205.00 | (\$190.00) | \$487.50 | \$101.25 | \$573.75 |
| Resource Price, Utilization, Patient Mix (P,U,m) = | \$80.00 | (\$800.00) | \$320.00 | (\$273.75) | (\$773.75) |
| Efficiency, Utilization, Patient Mix (R,U,m) = | (\$204.00) | \$585.50 | \$157.50 | \$19.00 | \$1,248.00 |
| Four Way Interaction | | | | | |
| Resource Price, Efficiency, Utilization, Patient Mix (P,R,U,m) = | \$20.00 | \$97.00 | (\$38.75) | \$87.75 | \$167.00 |
| Total of Cost Variance Components = | \$101,620.00 | \$355,955.00 | (\$54,908.00) | \$259,847.75 | \$681,514.75 |

Figure 4D - Cost Variance Graphs at Level of Resources

ABM-RCP Variance Analytics Model

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Colin M. Lay and Ron Eden

University of Ottawa

2003-03-11 08:13 PM

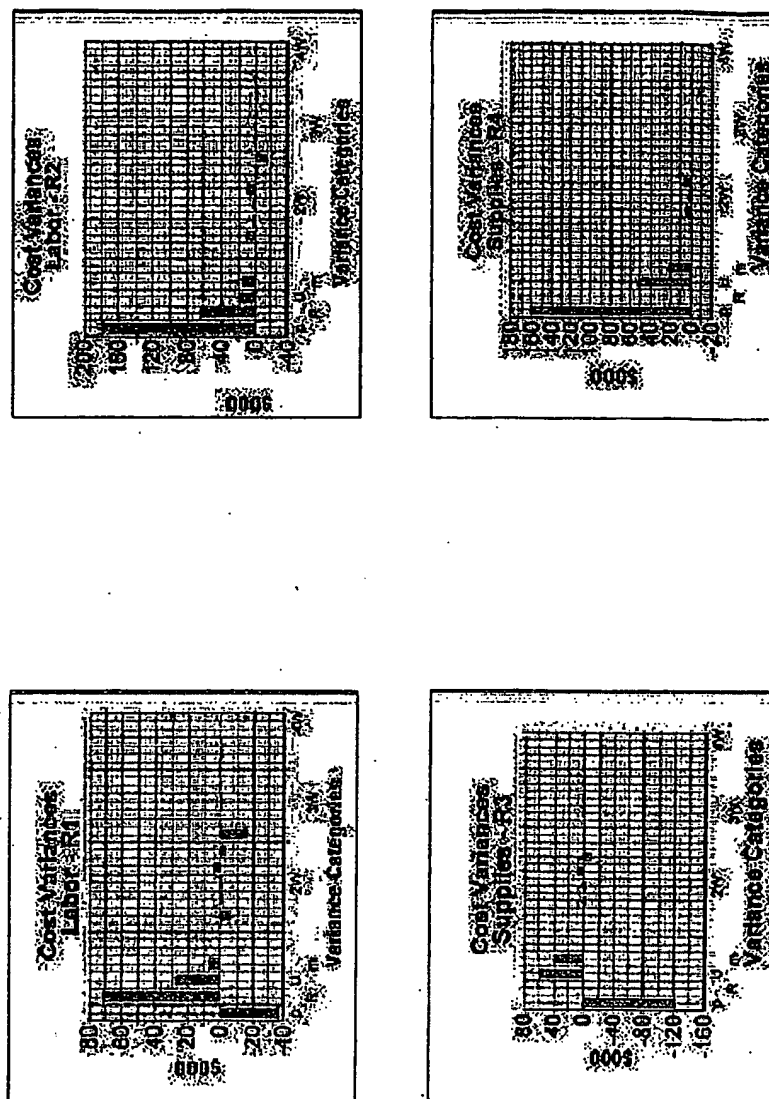


Figure 5A - Analysis of Overall Revenue and Profit Variances

[illegible]

Notes:
Positive revenue and profit variances are favorable.
Positive cost variances are unfavorable

Figure 5B - Revenue and Profit Variance Components for Products

| Product Dimension | Patient Types | | | | | | | | | | Total |
|--|----------------|----------------|---------------|----------------|--------------|--------------|----------------|--------------|----------------|--------------|----------------|
| | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 | DRG7 | DRG8 | DRG9 | DRG10 | |
| Sales Revenue Variance Analysis | | | | | | | | | | | |
| Actual Total Revenue = | \$1,584,000.00 | \$2,125,000.00 | \$500,000.00 | \$585,000.00 | \$432,000.00 | \$975,000.00 | \$1,200,000.00 | \$975,000.00 | \$1,200,000.00 | \$975,000.00 | \$8,432,000.00 |
| Budgeted Total Revenue = | \$1,400,000.00 | \$1,800,000.00 | \$500,000.00 | \$575,000.00 | \$375,000.00 | \$775,000.00 | \$1,000,000.00 | \$775,000.00 | \$1,000,000.00 | \$775,000.00 | \$8,250,000.00 |
| Total Revenue Variance = | \$184,000.00 | \$325,000.00 | \$0.00 | \$10,000.00 | \$225,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$182,000.00 |
| Selling Price Revenue Variance (sp) = | \$40,000.00 | \$75,000.00 | \$0.00 | \$0.00 | \$22,500.00 | \$20,000.00 | \$20,000.00 | \$20,000.00 | \$20,000.00 | \$20,000.00 | \$75,000.00 |
| Patient Mix Revenue Variance (m) = | \$140,000.00 | \$250,000.00 | \$0.00 | \$10,000.00 | \$202,500.00 | \$180,000.00 | \$180,000.00 | \$180,000.00 | \$180,000.00 | \$180,000.00 | \$107,000.00 |
| Selling Price, Patient Mix Interaction Revenue Variance (sp,m) = | \$4,000.00 | \$10,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total of Revenue Variance Components | \$184,000.00 | \$325,000.00 | \$0.00 | \$10,000.00 | \$225,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$182,000.00 |
| Profit Variance Analysis | | | | | | | | | | | |
| Actual Total Profit = | \$267,345.00 | \$175,858.50 | \$24,013.75 | \$4,020.00 | \$41,305.50 | \$111,934.00 | \$151,000.00 | \$111,934.00 | \$151,000.00 | \$111,934.00 | \$1,000,000.00 |
| Budgeted Total Profit = | \$222,000.00 | \$141,000.00 | \$44,000.00 | \$103,500.00 | \$82,700.00 | \$103,500.00 | \$134,000.00 | \$103,500.00 | \$134,000.00 | \$103,500.00 | \$894,200.00 |
| Total Profit Variance = | \$45,345.00 | \$34,858.50 | (\$21,986.25) | (\$109,120.00) | \$58,605.50 | \$8,434.00 | \$17,000.00 | \$8,434.00 | \$17,000.00 | \$8,434.00 | \$105,800.00 |
| Total Revenue Variance = | \$184,000.00 | \$325,000.00 | \$0.00 | \$10,000.00 | \$225,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$200,000.00 | \$182,000.00 |
| Total Cost Variance = | \$242,655.00 | \$250,141.50 | \$21,986.25 | \$109,120.00 | \$28,694.50 | \$191,066.00 | \$167,000.00 | \$191,066.00 | \$167,000.00 | \$191,066.00 | \$288,200.00 |
| Total Profit Variance = | (\$84,655.00) | \$34,858.50 | (\$21,986.25) | (\$109,120.00) | \$58,605.50 | \$8,434.00 | \$17,000.00 | \$8,434.00 | \$17,000.00 | \$8,434.00 | (\$182,200.00) |

Note:
Positive revenue and profit variances are favorable.
Positive cost variances are unfavorable

ABM-RCP Variance Analytics Model Figure 5C - Revenue and Profit Variance Components for Product Groups

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University of Ottawa
2003-03-11 09:13 PM

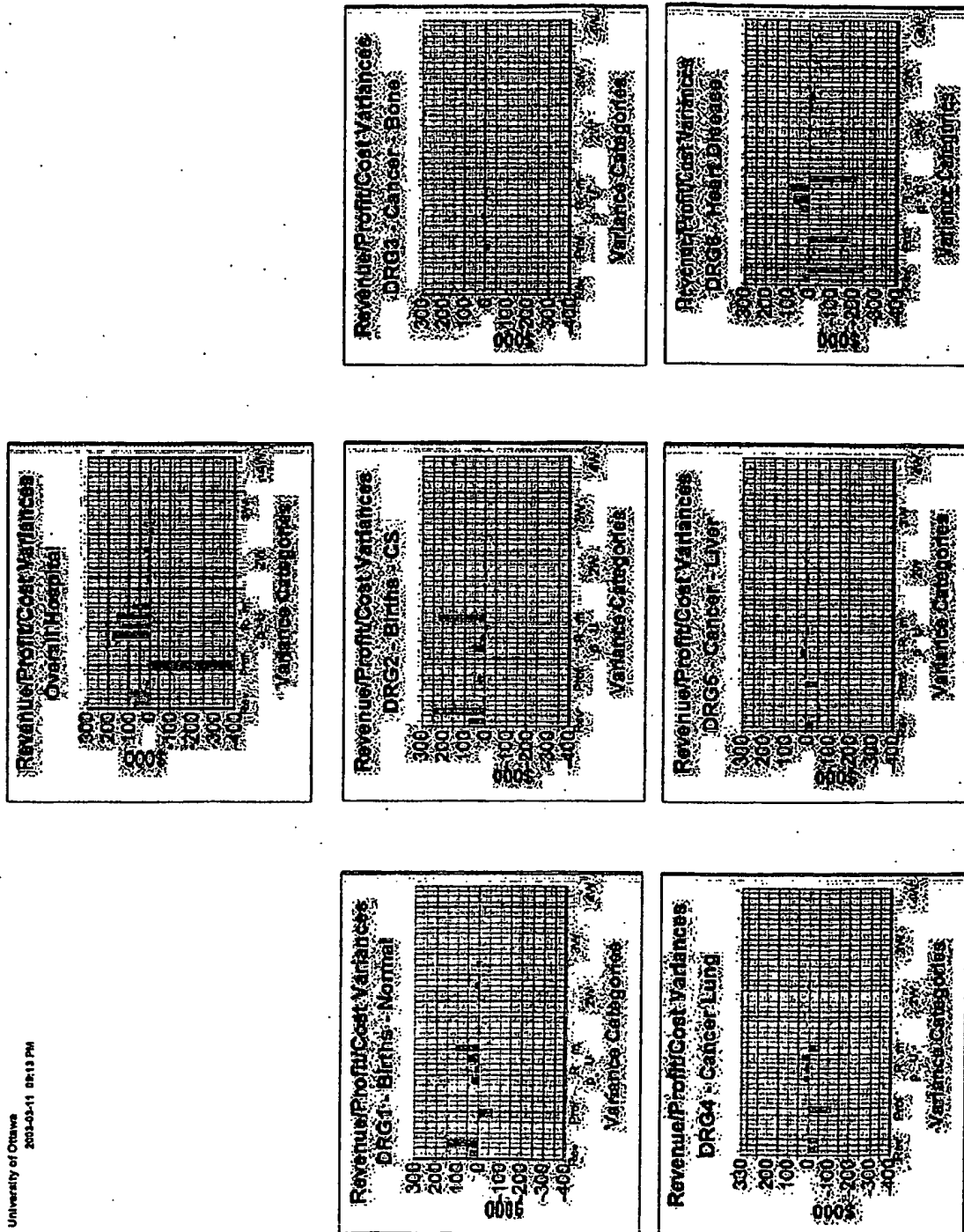
| Product-Group Dimension | | Birth | Cancer | Heart Disease | Totals |
|--|--|----------------|----------------|----------------|----------------|
| Sales Revenue Variance Analysis | | POZ | POV | POZ | Totals |
| Actual Total Revenue = | | \$2,700,000.00 | \$1,747,500.00 | \$978,000.00 | \$4,425,500.00 |
| Budgeted Total Revenue = | | \$2,200,000.00 | \$1,500,000.00 | \$1,200,000.00 | \$4,900,000.00 |
| Total Revenue Variance = | | \$500,000.00 | (\$102,500.00) | (\$224,000.00) | \$173,500.00 |
| Selling Price Revenue Variance (sp) = | | \$115,000.00 | (\$50,000.00) | \$20,000.00 | \$75,000.00 |
| Patient Mix Revenue Variance (m) = | | \$450,000.00 | (\$45,000.00) | (\$240,000.00) | \$165,000.00 |
| Selling Price, Patient Mix Interaction Revenue Variance (sp,m) = | | \$14,000.00 | \$2,500.00 | (\$4,000.00) | \$12,500.00 |
| Total of Revenue Variance Components | | \$569,000.00 | (\$102,500.00) | (\$224,000.00) | \$173,500.00 |
| Profit Variance Analysis | | | | | |
| Actual Total Profit = | | \$433,201.80 | \$50,788.25 | (\$13,924.00) | \$470,066.05 |
| Budgeted Total Profit = | | \$400,000.00 | \$242,200.00 | \$199,000.00 | \$841,200.00 |
| Total Profit Variance = | | (\$26,798.20) | (\$181,411.75) | (\$172,924.00) | (\$381,133.95) |
| Total Revenue Variance = | | \$500,000.00 | (\$102,500.00) | (\$224,000.00) | \$173,500.00 |
| Total Cost Variance = | | \$538,798.20 | \$75,910.75 | (\$21,066.00) | \$592,642.95 |
| Total Profit Variance = | | (\$26,798.20) | (\$181,411.75) | (\$172,924.00) | (\$381,133.95) |

subtract

Note:

Positive revenue and profit variances are favorable.
Positive cost variances are unfavorable

Figure 5D - Revenue, Profit and Cost Variance Graphs at the Level of Patient Type



ABM-RCP Variance Analytics Model

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Figure 8 • Activity Manager's Analysis - Initial steps

Percentage differences (Actual-Budget)/Budget for prices, resources, utilization and mix

and derived differences for their matrix products

(TEPR Indicates Division by Zero (0) Budget)

(i.e. either the activity was not expected to use the resource, or the cost object was not expected to use the activity)

| Cellulose | |
|-----------|----------------|
| DR01 | Births - Norm |
| DR02 | Births - CS |
| DR03 | Cancer-Blas |
| DR04 | Cancer - Lung |
| DR05 | Cancer - Liver |
| DR06 | Heart Disease |

| |
|-------|
| 17.7% |
| -4.0% |
| -2.7% |
| 3.1% |
| 7.6% |

| | |
|-------------|-------|
| padrinarump | 20.3% |
| | 8.5% |
| | 4.2% |
| | 8.1% |

pdj: hda: Umagor Umb 10.5%

| Mix of Patient Groups (Products) | |
|-------------------------------------|----------------------|
| DRG1 | 2000.0 Births - Norm |
| DRG2 | 1500.0 Births - CS |
| DRG3 | 500.0 Cancer-Bone |
| DRG4 | 750.0 Cancer - Lung |
| DRG5 | 900.0 Cancer - Liver |
| DRG6 | 1000.0 Heart Disease |

| | |
|------|---------|
| 0.00 | 7000.0 |
| 0.01 | 9700.0 |
| 0.02 | 11050.0 |
| 0.03 | 20700.0 |
| 0.04 | 19150.0 |

| | |
|----------|---------|
| 61153.00 | 700.00 |
| 61154.00 | 3500.00 |
| 61155.00 | 3500.00 |
| 61156.00 | 7000.00 |

00011RgrbAndJmo

| | |
|-------|--------------|
| Total | \$135,000.00 |
|-------|--------------|

Variances (Total above, details below)

| | | |
|------|-------------|----------------|
| DR01 | \$34,500.00 | Births - Norm |
| DR02 | \$25,100.00 | Births - CS |
| DR03 | \$0.00 | Cancer-Skin |
| DR04 | \$25,100.00 | Cancer - Lung |
| DR05 | \$0.00 | Cancer - Liver |
| DR06 | \$34,500.00 | Plant Disease |

| |
|-------------|
| \$9,800.00 |
| \$45,500.00 |
| \$31,500.00 |
| \$49,000.00 |

[illegible]

| | | | | | |
|-------|-------|-------|-------|-------|-------|
| 18.8% | 10.0% | 10.6% | 10.0% | 96.0% | 23.4% |
| 10.6% | 1.7% | 7.0% | 11.2% | -0.8% | 19.3% |
| 1.8% | -3.3% | -8.8% | 4.6% | 0.2% | 18.6% |
| 12.7% | -1.1% | -1.7% | 12.1% | -4.2% | 4.0% |

[illegible]

| Utilization of Activities for Patient Groups | | | | | | | | | |
|--|--------|-------|-------|--------|--------|-------|--------|-------|---------------|
| | Stroke | Brain | CS | Cancer | Cancer | Lung | Cancer | Liver | Heart Disease |
| | DRG | DRG | DRG | DRG | DRG | DRG | DRG | DRG | DRG |
| U1 | | | | | | | | | |
| A1 | 5,000 | 1,000 | 1,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| A2 | 5,000 | 1,000 | 1,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| A3 | 5,000 | 2,000 | 2,000 | 1,000 | 1,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| A4 | 2,000 | 4,000 | 4,000 | 5,000 | 5,000 | 5,000 | 3,000 | 3,000 | 4,000 |
| A5 | 2,000 | 5,000 | 5,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 1,000 |

[illegible]

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 | 1499 | 1500 | 1501 | 1502 | 1503 | 1504 | 1505 | 1506 | 1507 | 1508 | 1509 | 1510 | 1511 | 1512 | 1513 | 1514 | 1515 | 1516 | 1517 | 1518 | 1519 | 1520 | 1521 | 1522 | 1523 | 1524 | 1525 | 1526 | 1527 | 1528 | 1529 | 1530 | 1531 | 1532 | 1533 | 1534 | 1535 | 1536 | 1537 | 1538 | 1539 | 1540 | 1541 | 1542 | 1543 | 1544 | 1545 | 1546 | 1547 | 1548 | 1549 | 1550 | 1551 | 1552 | 1553 | 1554 | 1555 | 1556 | 1557 | 1558 | 1559 | 1560 | 1561 | 1562 | 1563 | 1564 | 1565 | 1566 | 1567 | 1568 | 1569 | 1570 | 1571 | 1572 | 1573 | 1574 | 1575 | 1576 | 1577 | 1578 | 1579 | 1580 | 1581 | 1582 | 1583 | 1584 | 1585 | 1586 | 1587 | 1588 | 1589 | 1590 | 1591 | 1592 | 1593 | 1594 | 1595 | 1596 | 1597 | 1598 | 1599 | 1600 | 1601 | 1602 | 1603 | 1604 | 1605 | 1606 | 1607 | 1608 | 1609 | 1610 | 1611 | 1612 | 1613 | 1614 | 1615 | 1616 | 1617 | 1618 | 1619 | 1620 | 1621 | 1622 | 1623 | 1624 | 1625 | 1626 | 1627 | 1628 | 1629 | 1630 | 1631 | 1632 | 1633 | 1634 | 1635 | 1636 | 1637 | 1638 | 1639 | 1640 | 1641 | 1642 | 1643 | 1644 | 1645 | 1646 | 1647 | 1648 | 1649 | 1650 | 1651 | 1652 | 1653 | 1654 | 1655 | 1656 | 1657 | 1658 | 1659 | 1660 | 1661 | 1662 | 1663 | 1664 | 1665 | 1666 | 1667 | 1668 | 1669 | 1670 | 1671 | 1672 | 1673 | 1674 | 1675 | 1676 | 1677 | 1678 | 1679 | 1680 | 1681 | 1682 | 1683 | 1684 | 1685 | 1686 | 1687 | 1688 | 1689 | 1690 | 1691 | 1692 | 1693 | 1694 | 1695 | 1696 | 1697 | 1698 | 1699 | 1700 | 1701 | 1702 | 1703 | 1704 | 1705 | 1706 | 1707 | 1708 | 1709 | 1710 | 1711 | 1712 | 1713 | 1714 | 1715 | 1716 | 1717 | 1718 | 1719 | 1720 | 1721 | 1722 | 1723 | 1724 | 1725 | 1726 | 1727 | 1728 | 1729 | 1730 | 1731 | 1732 | 1733 | 1734 | 1735 | 1736 | 1737 | 1738 | 1739 | 1740 | 1741 | 1742 | 1743 | 1744 | 1745 | 1746 | 1747 | 1748 | 1749 | 1750 | 1751 | 1752 | 1753 | 1754 | 1755 | 1756 | 1757 | 1758 | 1759 | 1760 | 1761 | 1762 | 1763 | 1764 | 1765 | 1766 | 1767 | 1768 | 1769 | 1770 | 1771 | 1772 | 1773 | 1774 | 1775 | 1776 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 | 1783 | 1784 | 1785 | 1786 | 1787 | 1788 | 1789 | 1790 | 1791 | 1792 | 1793 | 1794 | 1795 | 1796 | 1797 | 1798 | 1799 | 1800 | 1801 | 1802 | 1803 | 1804 | 1805 | 1806 | 1807 | 1808 | 1809 | 1810 | 1811 | 1812 | 1813 | 1814 | 1815 | 1816 | 1817 | 1818 | 1819 | 1820 | 1821 | 1822 | 1823 | 1824 | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 237 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-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| Disposal Ratio Group | Dose and ratio of cost per unit caused by selected activity | | | | |
|----------------------|---|---------|--------|---------|--------|
| C01 | \$18.40 | 0 | 0 | 0 | 0 |
| C02 | 0 | \$18.40 | 0 | 0 | 0 |
| C03 | 0 | 0 | \$0.00 | 0 | 0 |
| C04 | 0 | 0 | 0 | \$28.80 | 0 |
| C05 | 0 | 0 | 0 | 0 | \$0.00 |
| C06 | 0 | 0 | 0 | 0 | 0 |

| Diagonals | Diagonal matrix of resource prices |
|-----------|------------------------------------|
| R1 | \$14.00 0 0 |
| R2 | 0 0 \$12.00 |
| R3 | 0 0 \$9.00 |

| Resources used by Activities | | | | | | | | | |
|------------------------------|-------|-----------|--------|-----------|--------|--------|----|----------|-----|
| Nursing 1 | | Nursing 2 | | Lab Tests | | X-Rays | | Pharmacy | |
| A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 |
| R1 | 10.0% | ERR | 20.0% | ERR | 10.0% | | | | |
| R2 | ERR | 8.0% | -20.0% | 50.0% | -18.0% | | | | |
| R3 | 25.0% | -25.0% | 28.7% | 2.6% | -10.0% | | | | |
| R4 | 31.3% | -20.0% | -25.0% | 4.0% | -8.7% | | | | |
| Totals/avg | | 39.7% | -7.0% | 9.6% | 19.1% | -3.3% | | | |

| pdjiprmpub | |
|------------|-------|
| 39.7% | 19.3% |
| 7.0% | 4.3% |

| | R1 | R2 | R3 | R4 |
|---------------------|------|-------|-------|-------|
| Prices of Resources | | | | |
| Labour | 7.1% | 15.4% | -0.0% | 10.7% |
| Supplies | | | | |

| participa | R1 | R2 | R3 | R4 |
|--------------------------------------|-------|-------|-------|-------|
| Contribuția la costurile de servicii | -7.1% | 15.4% | -6.0% | 10.7% |

| Activity | differences (total - budget) for Resources used by Activities | | | | |
|----------|---|----|----|----|----|
| | A1 | A2 | A3 | A4 | A5 |
| R1 | 0.1 | 0 | 0 | 0 | 0 |
| R2 | 0.5 | 0 | 0 | 0 | 0 |
| R3 | 0.5 | 0 | 0 | 0 | 0 |
| R4 | 1 | 0 | 0 | 0 | 0 |

| | | | | | |
|--------------|---------|--------|--------|--------|--------|
| Abd MR Rb An | \$19.40 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
|--------------|---------|--------|--------|--------|--------|

| Prices of Resources | | | | | |
|---------------------|----------|---------|----------|--------|----------|
| | Labour 1 | | Labour 2 | | Supplies |
| | R1 | R2 | R3 | R4 | |
| bb | \$14.00 | \$13.00 | \$9.00 | \$7.00 | |

| Job | R1 | R2 | R3 | R4 |
|-----|---------|---------|--------|--------|
| | \$14.00 | \$13.00 | \$9.00 | \$7.00 |

Activity Resource Use (In)Efficiency Variances

For Selected Activity ONLY
(Prices, Utilization and Mix are shown at budgeted values)

Cost Object (Product)

Resource Variances

ABM-RCP Variance Analytics Model

PCT Patent Submission - 2003-03-13

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Figure 7 - Activity Managers Detailed Reports of the Impact of Efficiency Changes

Focus on Activity Efficiency Changes - Units of Resources Used per Unit of Service

Matrix R - Resources Used to Create 1 Unit of Each Service

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy |
|----|-----------|-----------|-----------|--------|----------|
| Ra | A1 | A2 | A3 | A4 | A5 |
| R1 | 1.1 | 0 | 1.3 | 0.2 | 0.0 |
| R2 | 0.5 | 1.0 | 0.0 | 1.5 | 1.7 |
| R3 | 2.5 | 1.5 | 3.0 | 4.1 | 4.5 |
| R4 | 4 | 0.0 | 1.0 | 0.2 | 2.5 |

Ra = Actual Values of Resources to Services (Activities) Transformation

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy |
|----|-----------|-----------|-----------|--------|----------|
| Rb | A1 | A2 | A3 | A4 | A5 |
| R1 | 1 | 0 | 1 | 0 | 1 |
| R2 | 0 | 2 | 1 | 1 | 2 |
| R3 | 2 | 2 | 3 | 4 | 5 |
| R4 | 3 | 1 | 2 | 0 | 3 |

Rb = Budgeted Values

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy |
|-----|-----------|-----------|-----------|--------|----------|
| Rab | A1 | A2 | A3 | A4 | A5 |
| R1 | 0.1 | 0 | 0.2 | 0.2 | -0.1 |
| R2 | 0.5 | -0.1 | -0.2 | 0.5 | -0.3 |
| R3 | 0.5 | -0.5 | 0.0 | 0.1 | -0.5 |
| R4 | 1 | -0.2 | -0.3 | 0.2 | -0.2 |

Rab = Difference
= Actual - Budget
= Efficiency Change

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy |
|------------|-----------|-----------|-----------|--------|----------|
| % Diff Rab | A1 | A2 | A3 | A4 | A5 |
| R1 | 10.0 | 0.0 | 20.0 | 40.0 | -10.0 |
| R2 | 100.0 | -10.0 | -20.0 | 100.0 | -15.0 |
| R3 | 25.0 | -33.3 | 0.0 | 2.5 | -11.1 |
| R4 | 33.3 | -20.0 | -25.0 | 10.0 | -10.0 |

% Difference
= Efficiency Change

Focus on Activity Efficiency Changes Impact on Resources Used

Increase (Decrease) Resources Used Caused by Activity Efficiency Change
- everything else (U, m) at Budget

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy | Total |
|----|-----------|-----------|-----------|----------|----------|---------|
| | A1 | A2 | A3 | A4 | A5 | |
| R1 | 700.0 | 0.0 | 2,210.0 | 4,140.0 | -1,915.0 | 5,135.0 |
| R2 | 3,500.0 | -870.0 | -2,210.0 | 10,350.0 | -5,745.0 | 4,825.0 |
| R3 | 3,500.0 | -4,850.0 | 9,840.0 | 2,070.0 | -6,675.0 | -16.0 |
| R4 | 7,000.0 | -1,840.0 | -5,525.0 | 4,140.0 | -3,630.0 | -155.0 |

Increase (Decrease) Resources Used Caused by Activity Efficiency Change
- everything else (U, m) at Actual

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy | Total |
|----|-----------|-----------|-----------|----------|-----------|---------|
| | A1 | A2 | A3 | A4 | A5 | |
| R1 | 824.0 | 0.0 | 2,150.0 | 4,270.0 | -2,050.0 | 5,194.0 |
| R2 | 4,120.0 | -914.0 | -2,150.0 | 10,875.0 | -6,174.0 | 5,557.0 |
| R3 | 4,120.0 | -4,570.0 | 9,800.0 | 2,135.0 | -10,280.0 | -6.0 |
| R4 | 6,240.0 | -1,824.0 | -5,275.0 | 4,270.0 | -4,110.0 | 1,191.0 |

Increase (Decrease) \$ for Resources Used Caused by Activity Efficiency Change
- everything else (U, m) at Budget

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy | Total |
|-------|--------------|--------------|--------------|--------------|---------------|--------------|
| | A1 | A2 | A3 | A4 | A5 | |
| R1 | \$3,800.00 | \$0.00 | \$30,940.00 | \$57,980.00 | -\$36,810.00 | \$71,890.00 |
| R2 | \$45,500.00 | -\$12,810.00 | -\$28,720.00 | \$134,550.00 | -\$74,685.00 | \$94,025.00 |
| R3 | \$11,500.00 | -\$43,850.00 | \$78,500.00 | \$10,630.00 | -\$68,175.00 | -\$135.00 |
| R4 | \$45,000.00 | -\$13,500.00 | -\$38,075.00 | \$28,980.00 | -\$20,810.00 | -\$1,005.00 |
| Total | \$135,800.00 | -\$69,840.00 | \$43,095.00 | \$240,120.00 | -\$214,480.00 | \$134,865.00 |

Focus on Activity Efficiency Changes Impact on Patient Groups

Increase (Decrease) of Average Patient Group Unit Cost Caused by Activity Efficiency Change

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy | Total |
|----------------|-----------|-----------|-----------|---------|----------|---------|
| | A1 | A2 | A3 | A4 | A5 | |
| B1 - Norm | \$18.40 | \$0.00 | \$0.00 | \$21.20 | -\$33.60 | \$0.00 |
| B1 - CS | \$19.40 | -\$7.20 | \$7.80 | \$46.40 | -\$56.00 | \$10.40 |
| Cancer - Bone | \$0.00 | -\$14.40 | \$3.00 | \$26.00 | -\$33.60 | \$13.00 |
| Cancer - Lung | \$38.80 | -\$14.40 | \$3.00 | \$22.20 | -\$33.60 | \$17.00 |
| Cancer - Liver | \$0.00 | -\$11.80 | \$7.80 | \$24.80 | -\$31.20 | \$0.60 |
| Heart Disease | \$38.80 | -\$21.00 | \$18.20 | \$40.40 | -\$51.20 | \$71.80 |

Increase (Decrease) of Total \$ of Services Caused by Activity Efficiency Change

| | Nursing 1 | Nursing 2 | Lab Tests | X-Rays | Pharmacy | Total |
|----------------|--------------|--------------|-------------|--------------|---------------|--------------|
| | A1 | A2 | A3 | A4 | A5 | |
| B1 - Norm | \$38,800.00 | \$0.00 | \$0.00 | \$48,400.00 | -\$87,200.00 | \$18,000.00 |
| B1 - CS | \$39,100.00 | -\$10,800.00 | \$11,700.00 | \$89,600.00 | -\$54,000.00 | \$15,600.00 |
| Cancer - Bone | \$0.00 | -\$17,200.00 | \$1,800.00 | \$59,000.00 | -\$38,800.00 | \$4,800.00 |
| Cancer - Lung | \$39,100.00 | -\$10,800.00 | \$2,800.00 | \$17,400.00 | -\$25,200.00 | \$13,400.00 |
| Cancer - Liver | \$0.00 | -\$10,400.00 | \$7,800.00 | \$21,320.00 | -\$10,080.00 | \$4,820.00 |
| Heart Disease | \$39,800.00 | -\$21,800.00 | \$19,500.00 | \$40,400.00 | -\$51,200.00 | \$71,800.00 |
| Total | \$135,800.00 | -\$69,840.00 | \$43,095.00 | \$240,120.00 | -\$214,480.00 | \$134,865.00 |

ABM-RCP Variance Analytics Model
PCT Patent Submission - 2003-03-13
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Figure 8 - Product Managers Detailed Reports of the Impact of Utilization Changes

Focus on Utilization (Treatment Protocols) Changes - Average Activity Levels per Patient by Patient Group

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease |
|-----------|----|---------------|-------------|-------------|---------------|----------------|---------------|
| | Us | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 |
| Nursing 1 | A1 | 1.5 | 1.5 | 0.0 | 2.0 | 0.0 | 2.3 |
| Nursing 2 | A2 | 0.0 | 0.0 | 2.0 | 2.0 | 2.5 | 3.7 |
| Lab Tests | A3 | 0.0 | 2.0 | 0.0 | 1.0 | 2.0 | 3.5 |
| X-Rays | A4 | 2.0 | 0.0 | 0.0 | 2.0 | 3.0 | 4.0 |
| Pharmacy | A5 | 3.0 | 0.0 | 3.0 | 3.0 | 1.0 | 1.0 |

Us = Actual Value of Utilization
- Treatment Protocols by Type of Patient

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease |
|-----------|----|---------------|-------------|-------------|---------------|----------------|---------------|
| | Ub | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 |
| Nursing 1 | A1 | 1.0 | 1.0 | 0.0 | 2.0 | 0.0 | 2.0 |
| Nursing 2 | A2 | 0.0 | 1.0 | 2.0 | 2.0 | 3.0 | 3.0 |
| Lab Tests | A3 | 0.0 | 2.0 | 1.0 | 1.0 | 2.0 | 3.0 |
| X-Rays | A4 | 2.0 | 0.0 | 0.0 | 2.0 | 3.0 | 4.0 |
| Pharmacy | A5 | 3.0 | 0.0 | 3.0 | 3.0 | 1.0 | 1.0 |

Ub = Budgeted Values

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease |
|-----------|-----|---------------|-------------|-------------|---------------|----------------|---------------|
| | Uab | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 |
| Nursing 1 | A1 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.3 |
| Nursing 2 | A2 | 0.0 | -0.1 | -0.0 | 0.0 | -0.5 | 0.7 |
| Lab Tests | A3 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 | 0.5 |
| X-Rays | A4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pharmacy | A5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |

Uab = Difference
= Actual - Budget

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease |
|-----------|------------|---------------|-------------|-------------|---------------|----------------|---------------|
| | % Diff Uab | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 |
| Nursing 1 | A1 | 33.3% | 33.3% | 0.0% | 0.0% | 0.0% | 16.7% |
| Nursing 2 | A2 | 0.0% | -10.0% | 0.0% | 0.0% | -16.7% | 20.0% |
| Lab Tests | A3 | 0.0% | 0.0% | -10.0% | 0.0% | 0.0% | 14.3% |
| X-Rays | A4 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Pharmacy | A5 | 0.0% | 0.0% | 0.0% | 0.0% | 10.0% | 0.0% |

% Difference
= % Utilization Change
= % Change in Treatment Protocols

Focus on Utilization (Treatment Protocols) Changes Impact on Resources Used

Increase (decrease) in Resources Used Caused by Utilization Changes

- everything else at Budgeted values (R, m)

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease | Total |
|------------|----|---------------|-------------|-------------|---------------|----------------|---------------|---------|
| | | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 | |
| Labour 1 | R1 | 1,000.0 | 0.0 | -50.0 | 0.0 | 150.0 | 850.0 | 1,000.0 |
| Labour 2 | R2 | 0.0 | -200.0 | -50.0 | 375.0 | -450.0 | 1,000.0 | 1,000.0 |
| Supplies 1 | R3 | 2,000.0 | -300.0 | -150.0 | 1,200.0 | -50.0 | 3,200.0 | 3,550.0 |
| Supplies 2 | R4 | 3,000.0 | -150.0 | -100.0 | 1,875.0 | 50.0 | 2,000.0 | 7,315.0 |

Increase (decrease) in \$ for Resources Used Caused by Utilization Changes

- everything else at Budgeted values (R, m)

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease | Total |
|------------|----|---------------|-------------|-------------|---------------|----------------|---------------|--------------|
| | | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 | |
| Labour 1 | R1 | \$11,000.00 | \$0.00 | -\$500.00 | \$0.00 | \$1,500.00 | \$11,000.00 | \$22,000.00 |
| Labour 2 | R2 | \$0.00 | -\$2,000.00 | -\$500.00 | \$4,875.00 | -\$450.00 | \$24,725.00 | \$18,000.00 |
| Supplies 1 | R3 | \$18,000.00 | -\$3,000.00 | -\$1,500.00 | \$13,500.00 | -\$50.00 | \$31,500.00 | \$34,000.00 |
| Supplies 2 | R4 | \$31,000.00 | -\$1,500.00 | -\$1,000.00 | \$18,750.00 | \$50.00 | \$19,200.00 | \$51,200.00 |
| Total | | \$41,000.00 | -\$7,500.00 | -\$2,400.00 | \$31,500.00 | -\$3,450.00 | \$66,000.00 | \$155,180.00 |

Focus on Utilization (Treatment Protocols) Changes Impact on Activities (Patient Services) Used

Increase (decrease) in Activities (Patient Services) Used Caused by Utilization Changes

- everything else at Budgeted values (R, m)

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease | Total |
|-----------|----|---------------|-------------|-------------|---------------|----------------|---------------|---------|
| | | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 | |
| Nursing 1 | A1 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.0 | 300.0 | 1,300.0 |
| Nursing 2 | A2 | 0.0 | -150.0 | 0.0 | 0.0 | -450.0 | 700.0 | 800.0 |
| Lab Tests | A3 | 0.0 | 0.0 | -50.0 | 0.0 | 0.0 | 600.0 | 650.0 |
| X-Rays | A4 | 0.0 | 0.0 | 0.0 | 375.0 | 0.0 | 0.0 | 375.0 |
| Pharmacy | A5 | 0.0 | 0.0 | 0.0 | 0.0 | 150.0 | 0.0 | 680.0 |

Increase (decrease) in \$ for Activities (Patient Services) Used Caused by Utilization Changes

- everything else at Budgeted values (R, m)

| | | Births - Norm | Births - CS | Cancer-Bone | Cancer - Lung | Cancer - Liver | Heart Disease | Total |
|-----------|----|---------------|-------------|-------------|---------------|----------------|---------------|--------------|
| | | DRG1 | DRG2 | DRG3 | DRG4 | DRG5 | DRG6 | |
| Nursing 1 | A1 | \$55,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$15,000.00 | \$68,000.00 |
| Nursing 2 | A2 | \$0.00 | -\$7,500.00 | \$0.00 | \$0.00 | -\$22,500.00 | \$35,000.00 | \$5,000.00 |
| Lab Tests | A3 | \$0.00 | \$0.00 | -\$2,500.00 | \$0.00 | \$0.00 | \$34,000.00 | \$31,000.00 |
| X-Rays | A4 | \$0.00 | \$0.00 | \$0.00 | \$18,750.00 | \$0.00 | \$0.00 | \$18,750.00 |
| Pharmacy | A5 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$19,000.00 | \$0.00 | \$19,000.00 |
| Total | | \$55,000.00 | -\$7,500.00 | -\$2,400.00 | \$18,750.00 | -\$23,500.00 | \$69,000.00 | \$155,180.00 |

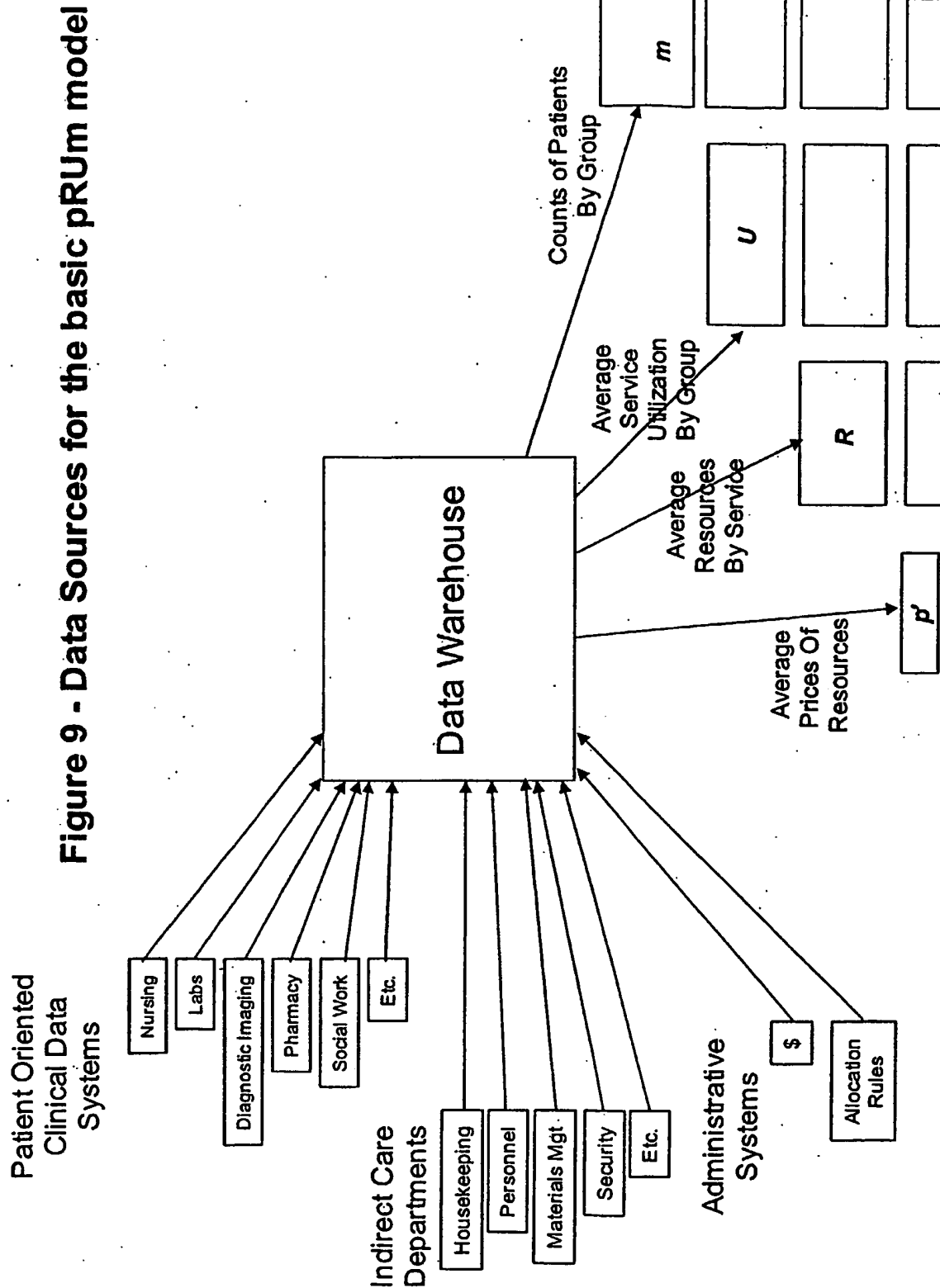
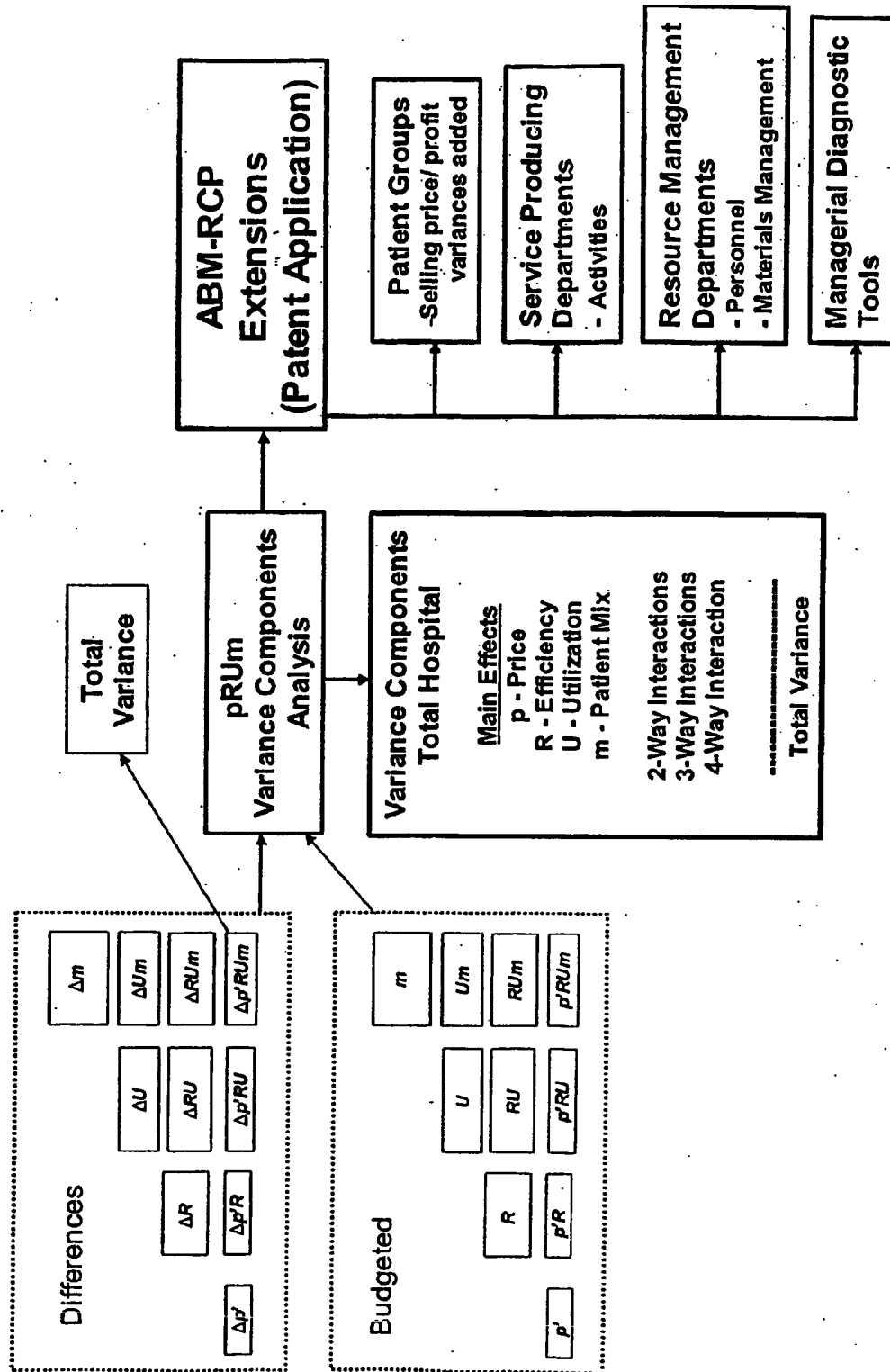


Figure 10 - Activity Based Management - Revenue, Cost, Profit Variances



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